

2 *Goals and Waterfront Wide Elements*

The Design

Along with the identification of goals and objectives, The Plan process included a review of existing conditions; community assets; technical data relating to the marina, circulation and parking; historic preservation and conservation; art and cultural planning; park planning; and more. The Plan builds upon the goals and strategies identified in recent Citywide planning efforts such as the Open Space Plan, The Transportation Master Plan and the Eco-City Action Plan. With the benefit of this information, a design for the waterfront began to take hold, first through an Activity Map, then a Concept Plan and now a Small Area Plan.

A Plan for the public realm...

Public spaces comprise the majority of land along the waterfront and appropriately receive the most attention in this Plan. In concert with previous waterfront plans and with input from Alexandrians over the past year, this Plan emphasizes the value of the waterfront's public spaces: parks, plazas, promenades, trails, marinas and piers, streets and alleys. The Plan also importantly recognizes the significance of the land, largely created with fill over the course of Alexandria's history, that now makes up our public waterfront open space. Opportunities exist for interpreting the historic wharves that existed in these areas throughout the waterfront's preindustrial history. Several goals and objectives for the waterfront speak to expanding, enhancing and maintaining public access and spaces. The Plan's principles for the public realm are as follows:

- ◆ There will be a net gain of public space within the planning area
- ◆ There will be continuous public access along the waterfront. Such access will be in the form of parkland and public space as reflected in Figure 7.
- ◆ View corridors, when possible, will be strengthened. Alleys should be retained or reopened where feasible, as illustrated by Figures 6a and 6b.
- ◆ Existing parks and open spaces will be protected and enhanced.
- ◆ New public spaces should add variety to those that already exist and provide locations for locally-desired activities.
- ◆ Natural systems will be integrated in an ecologically sustainable manner, and educational opportunities will be provided when possible.
- ◆ Facilities for waterfront and marina operations, maintenance, and security will be provided.
- ◆ Wayfinding and interpretive signage, to include names of historical figures, quotations, markers of significant places or events, or other creative implement, which facilitates access and adds visual interest to the waterfront should be incorporated into all designs for improvement or redevelopment.

Figure 5: Waterfront Small Area Illustrative Plan



Figure 6a: Connections - North Section

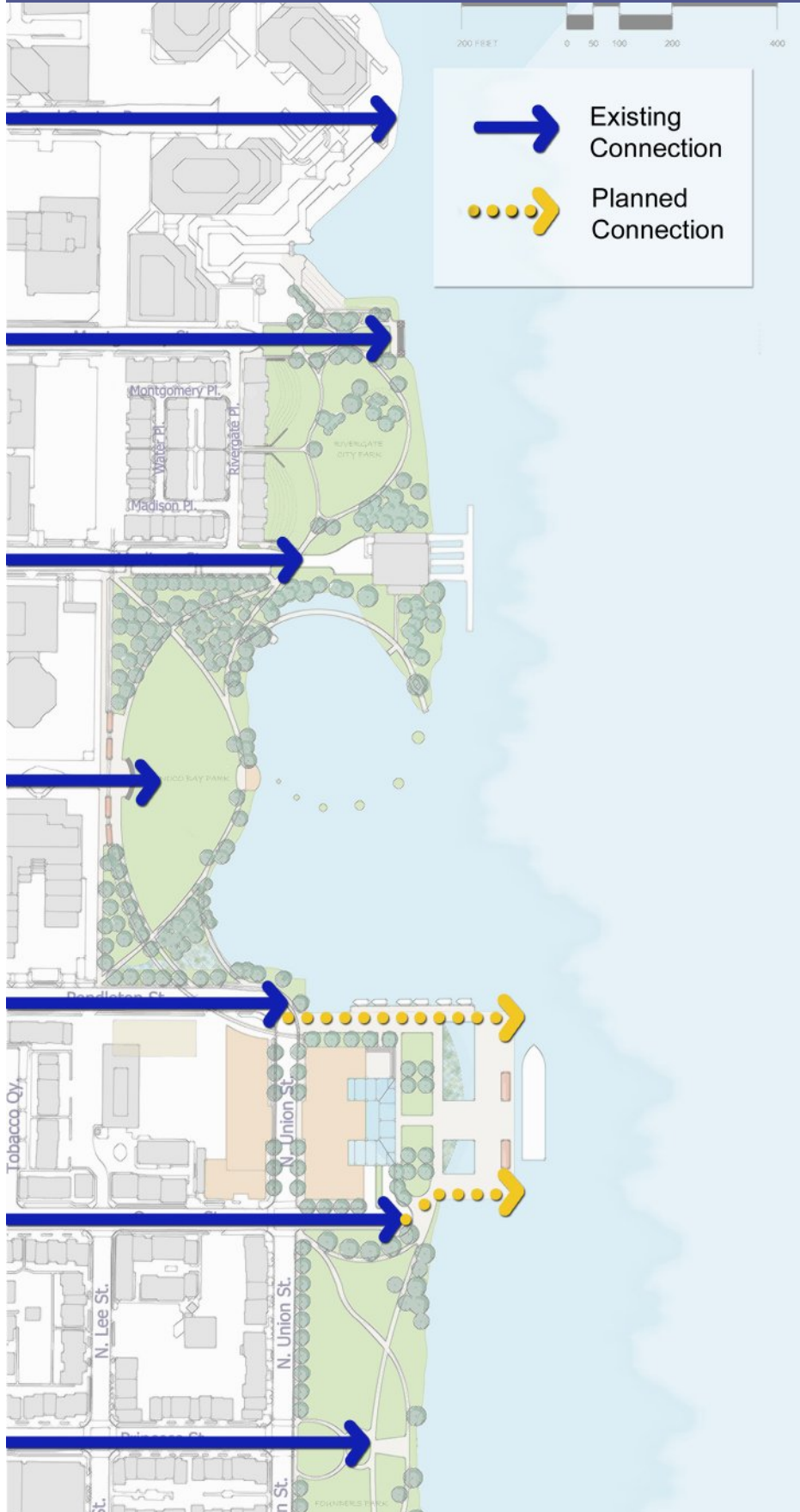
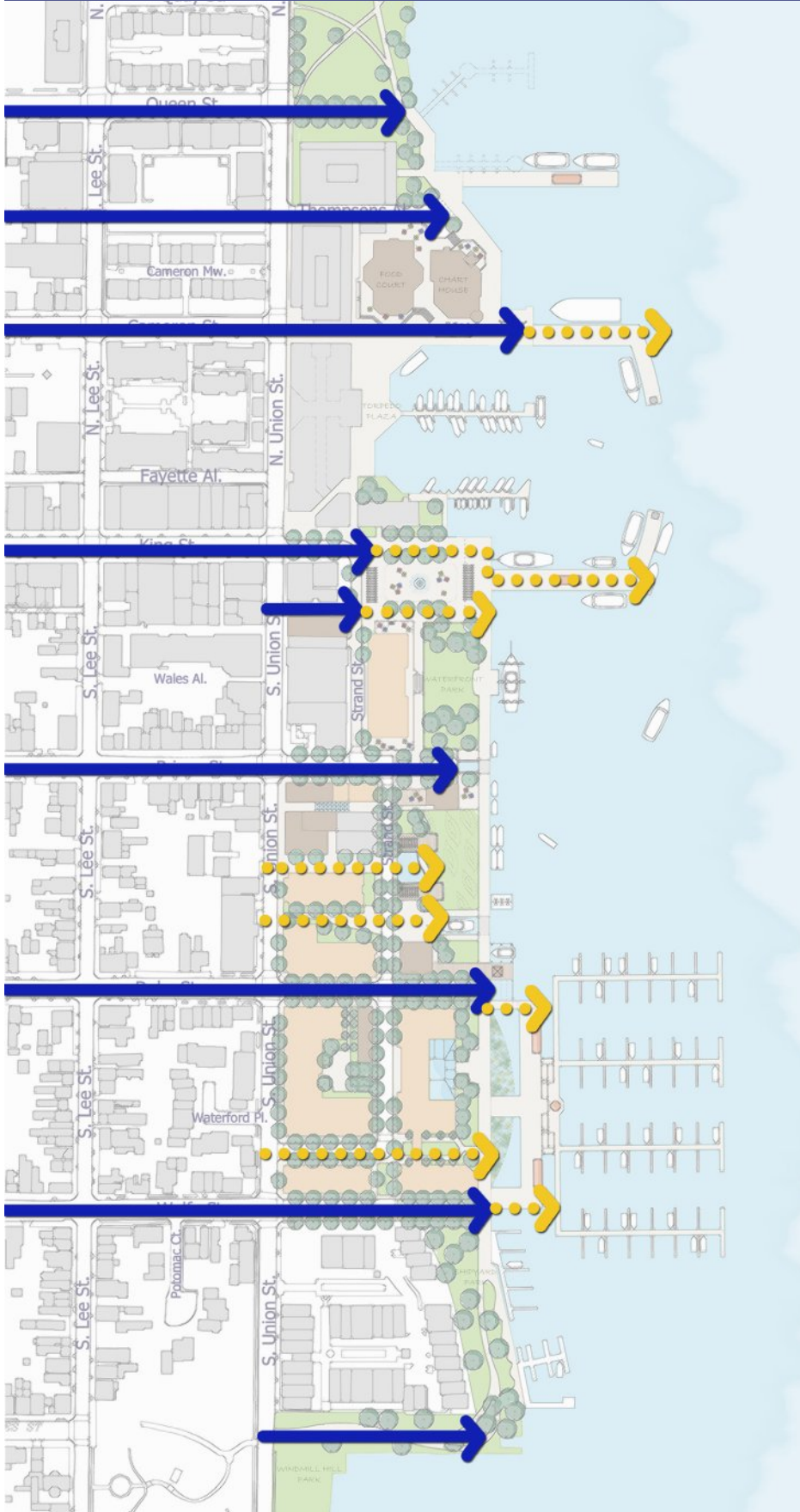


Figure 6b: Connections - South Section



Alexandria Waterfront Plan - Goal Statements

1. Authentic:

Create a unique Waterfront identity that is grounded in the City's history.

- Celebrate and honor the broad history and culture of the Alexandria Waterfront from prehistory to now.
- Respect the scale and character of Old Town.
- Protect identified historic resources, archaeological resources, and cultural resources, including buildings and sites.
- Adaptively reuse identified historic buildings.

2. Connected:

Increase and improve access to the public spaces of the Waterfront. Pedestrian connectivity along the Waterfront should be continuous.

- Create continuous pedestrian access along the entire Waterfront.
- Provide continuous north-south bicycle access.
- Enhance visual cues and sight lines for pedestrians, bicycles, and vehicles on all grid streets and alleys and increase accessibility for pedestrians, bicycles and, as appropriate, vehicles.
- Create connections to the Waterfront from Metro stations.
- Increase the capacity for access to Alexandria by boat.
- Encourage tourism, commuting, and leisure travel by boat between Alexandria and other regional waterfront destinations.

3. Inclusive:

The Waterfront is, and should continue to be, a citywide resource to be enjoyed by all Alexandrians.

- Ensure public access to the entire Waterfront.
- Provide a variety of activities for people of all ages and cultures.
- Link the Waterfront to Alexandria neighborhoods.

4. Dynamic:

Maintain a living, active Waterfront that is a destination that attracts all Alexandrians and visitors and should be integral to the visitor experience in Alexandria.

- Expand services and activities for visitors.
- Increase the use, frequency, and effectiveness of public spaces for gatherings and events.
- Emphasize art and history in each new initiative along the Waterfront. Utilize art and history as a unifying element.
- Strengthen the reputation of the area as a regional and national visitor destination by adding uses that complement existing retail, office and tourist attractions.

The waterfront planning area contains a number of public parks which are an important community asset and major elements of the public realm. Two parks are currently approved for renovation: Jones Point Park, a 52 acre facility at the southern end of the planning area near Woodrow Wilson Bridge, and Windmill Hill Park, a 3.5 acre park, also at the southern end of the planning area. The Plan recommends completing these renovation plans, which will work in concert with a redeveloped waterfront through improved facilities on-site and by enhancing connectivity of these parks to other parts of the waterfront. This Plan also calls for several other parks in the planning area to receive some measure of renovation and/or beautification, along with conservation and programming. Equally important is strengthening the connections among parks by completing the continuous pedestrian walkway and providing unifying elements such as art, history and recreational features.

5. Variety:

Provide a variety of uses, themes, activities, and experiences along the Waterfront.

- Create a diverse scale of spaces along the Waterfront.
- Offer activities and features that delight a diverse range of visitors.
- Provide a range of shoreline treatments and types that offer diverse ways to interact with the water.

6. Manageable:

Improve the Waterfront's vehicular and pedestrian circulation.

- Minimize pedestrian and vehicle conflicts.
- Increase way-finding for residents and visitors.
- Ensure adequate parking throughout the Plan area.
- Maximize underutilized parking opportunities elsewhere in Old Town.
- Promote use of designated pick-up and drop-off areas for motorcoaches.

7. Sustainable:

Ensure that the Waterfront is able to sustain itself economically, environmentally and operationally.

- Create revenue, initiate new partners, and leverage other resources that can be applied for enhancing and maintaining public open space and other public infrastructure.
- Maximize the utilization of existing resources.
- Generate sufficient net new tax revenue from new waterfront economic activities to pay for waterfront capital plans and ongoing parks and facilities maintenance
- Identify opportunities for satellite public facilities to provide onsite Waterfront maintenance, security and emergency services.
- Protect the existing amount of open space and, if possible, expand it.
- Ensure that Waterfront development presents Alexandria as an Eco-City.
- Integrate and activate natural systems and processes throughout the Waterfront.
- Identify opportunities for environmental education features.
- Use innovative and creative ideas for flood protection.
- Improve public health (including mental health) through opportunities for active living.
- Allow historic character and scale to influence new development opportunities.

In keeping with the above principles, the Plan adds 1.3 acres of public parks (by expanding King Street Park into Fitzgerald Square and by expanding Point Lumley Park and Roberdeau Park), 1.2 acres of public space (creating pedestrian-oriented plazas in the unit blocks of King Street, Prince Street, and Duke Street as well as two new public piers) and 2.5 acres of public space on the three redevelopment sites. There is a greater emphasis on activities for families, especially in Oronoco Bay Park and the connected trio of parks from King Street to Duke Street: Fitzgerald Square, Waterfront Park, and Point Lumley Park. Services for park users, including restrooms, bicycle racks, and game/equipment rental, are provided in Point Lumley/Waterfront Park and Oronoco Bay Park, as are facilities for park operations and maintenance. Through public action and private redevelopment, the Plan removes the remaining gaps in public access to the water. Figures 8a.- 8d. illustrate the addition of public space on public lands.

8. Compatible:

Ensure that Future development in the Waterfront respect the existing residential neighborhoods.

- Protect existing residential neighborhoods from excessive noise and traffic.
- Offer activities and features that delight a diverse range of visitors.
- Meet the needs of residents for open space, recreation and outdoor dining.

9. Permeable:

Enhance vistas of the water from surrounding areas and of the Waterfront from the river.

- Create overlooks with views to the water and to the City.
- Explore piers, especially where east-west streets meet the river.
- Preserve and enhance view corridors to the water, including historic streets and alleys.
- Create a system of visual elements to draw people to the water.

10. Creative:

Be bold, visionary, realistic, informative and offer surprises along the way.

- Offer a variety of locations where the public can become engaged with each other, art, artists and history.
- Offer participatory opportunities for people of all ages.
- Use art and history to tell the unique story of people and experiences.
- Provide flexible spaces that could be used for multiple activities.
- Make the Waterfront an example of design excellence.

Additionally, the Plan recognizes and supports the cultural and institutional facilities within the waterfront planning area that support its current and future viability as a visitor and destination center. From south to north: The Athenaeum Fine Arts Museum; the Ramsay House; the Carlyle House; The Torpedo Factory Art Center, including the Archeological Museum, Art League, and the History Center and Museum Store; Seaport Foundation; and the MetroStage, which straddles the plan boundary in North Old Town. Existing public art along the Waterfront includes Promenade Classique in Tide Lock Park, which is a series of fountains and terraces combined with classically inspired sculpture. In each case, it is important to seek to retain these community assets within or near the planning area, for they not only help tell the story of the waterfront's rich history and the important role it has played in the city's growth, but are also a critical part of the daily life of the waterfront today and they help connect and enhance the public realm. When these cultural facilities are joined together with others located just a couple blocks west, they create a cultural system that can broaden the visitor experience while enhancing the overall quality of life for residents.

Alexandria Waterfront Parks

(Existing within Plan Area - From North to South):

◆ Daingerfield Island – north end of planning area
◆ Tide Lock Park, North of Rivergate Park on the Potomac River
◆ Rivergate City Park, Madison Street and the Potomac River
◆ Oronoco Bay Park, 100 Madison Street
◆ West's Point Park, 1 Oronoco Street
◆ Founders Park, 351 North Union Street
◆ Torpedo Plaza, east side of the Torpedo Factory
◆ King Street Park, Foot of King Street
◆ Waterfront Park, 1A Prince Street
◆ Point Lumley Park, Duke Street and the Potomac River
◆ Roberdeau Park, Wolfe Street and the Potomac River
◆ Shipyard Park, Wilkes Street and the Potomac River
◆ Pomander Park, 600 South Union Street
◆ Windmill Hill Park, 501 South Union Street
◆ Jones Point Park - south end of planning area

Figure 7: Existing and Proposed Public Space

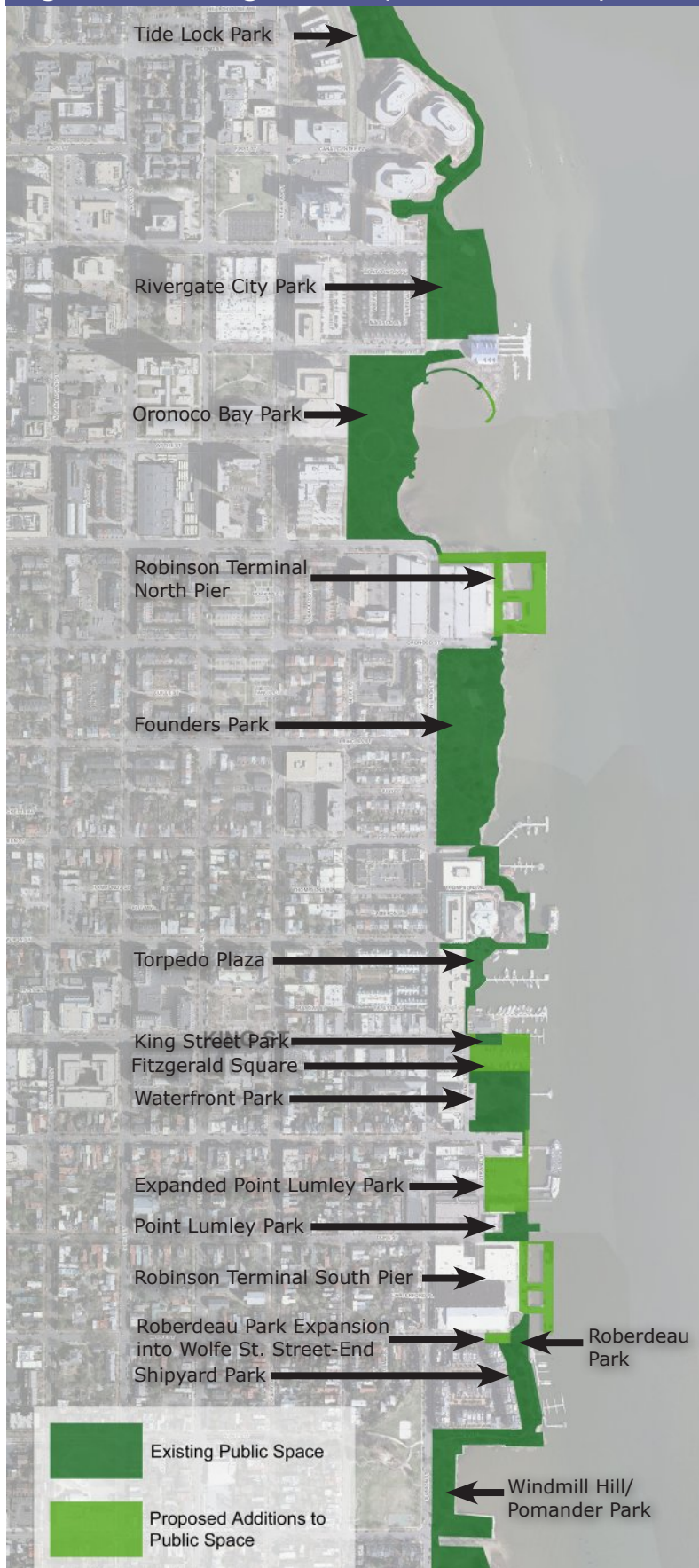


Figure 8a: Existing Open Space in the Core Area



Existing Open Space
in the core area:

1. King Street Park: .15 ac.
2. Waterfront Park: 1.4 ac.
3. Point Lumley Park: .6 ac.
4. Roberdeau Park: .20 ac.

Total: 2.35 acres

note: areas are approximate

Figure 8b: Proposed Park or Plaza Public Space in the Core Area



Proposed Park or Plaza
Public Space:

1. Fitzgerald Square: .90 ac.
2. Redesigned Waterfront Park: .90 ac.
3. Expanded Point Lumley Park: 1.6 ac.
4. Roberdeau Park with Expansion into Wolfe Street Street-End: .28 ac.

Total Additional: 1.35 acres

Total: 3.7 acres

note: areas are approximate

Figure 8c: Proposed Park, Plaza, or On-Pier Public Space at Full Build-out in the Core Area



Proposed On-Pier Public Space (At Full Buildout):

1. King Street Pier: .40 ac.
2. Cameron Street Pier: .30 ac.

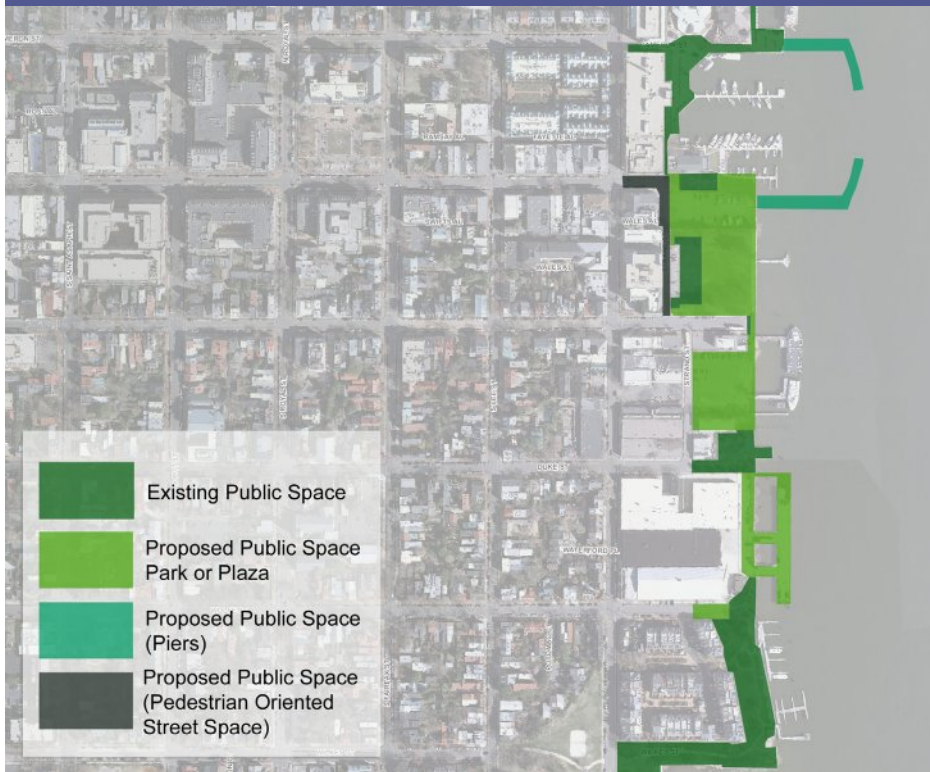
Total Additional: .70 acres

**Cumulative
Total Additional: 2.05 acres**

Total: 4.4 acres

note: areas are approximate

Figure 8d: Proposed Park, Plaza, On-Pier, or Pedestrianized Street Public Space at Full Build-out in the Core Area



Proposed Pedestrianized Street (At Full Buildout):

1. King St. Street-End: .10 ac.
2. The Strand: .20 ac.
3. Prince St. Street-End: .15 ac.

Total Additional: .45 acres

**Cumulative
Total Additional: 2.5 acres**

Total: 4.85 acres

note: areas are approximate

A Plan for redevelopment...

Consistent with an emphasis on the public realm, this Plan identifies only a few redevelopment sites (Figure 9): Robinson Terminal North, Robinson Terminal South, and the Cummings/Turner properties in the 200 block of South Union Street. All of these properties have been anticipated to redevelop for many years. This Plan provides additional guidance for redevelopment of those parcels. This Plan also identifies one new development site along the western edge of Waterfront Park.

The two Robinson Terminals and the Cummings/Turner block can be redeveloped under current zoning. Both the Cummings/Turner block and Robinson Terminal South are located within the Old & Historic District and contain several buildings that are among the most historic on the Waterfront. Adaptive reuse provides an opportunity to add some desired activities and reclaim the historic vibrancy of the waterfront. In addition, Alexandrians said that the new uses on the limited number of redevelopment sites should:

- ◆ Welcome the public by providing accessibility and activity;
- ◆ Be of a scale, type, and character compatible with, and evocative of, Old Town Alexandria;
- ◆ Reflect through design the history and nature of the place on which redevelopment occurs; and
- ◆ Focus new activities, such as cultural institutions and outdoor dining, in the Strand area.

The Plan recommends that any private development in the planning area be subject to design standards and guidelines approved for the waterfront. Private development should not, in any case, be of a type or design which inhibits public access or creates an uninviting disconnect at any point on the water. Any new development must be compatible with the goals of this Plan.

Design elements, New York NY



Tensile shade structure



**Figure 9:
Development Sites**



A Plan which is uniquely Alexandrian – Art and History Themes ...

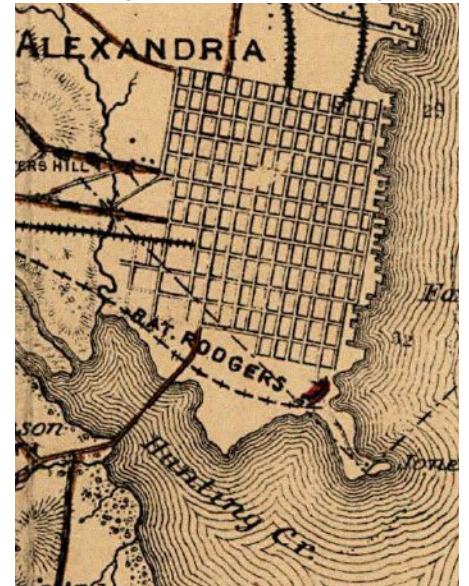
The Plan embraces the recommendations of the *Alexandria Waterfront History Plan—Alexandria, a Living History* and the *Alexandria Waterfront Public Art Proposal* by capturing the waterfront's history and preserving it through art, programming, historic preservation and conservation, and more. Toward that end, these two documents have identified a series of themes and they have matched the themes to physical areas (depicted in Figure 10) along the waterfront based on that area's history. This Plan recommends implementing the Art Walk as proposed. It also adopts the recommendations for historic interpretation in nearly every location along the waterfront through such actions as:

- ◆ Adding historic ships and emphasizing the City's maritime history,
- ◆ Expressing the City's historic shoreline,
- ◆ Recreating historic alleyways,
- ◆ Greater use of historic names,
- ◆ Restoring all of the historic buildings on the waterfront and opening them to the public,
- ◆ Identifying locations for a history center and other cultural anchors,
- ◆ Proposing commercial uses that recall the taverns and inns of old Alexandria, and
- ◆ Using a variety of approaches, including public art, to connect Alexandrians with the people, stories and events of our past.

A Plan which creates systems that work...

The need for improved facilities to support the waterfront, including marina operations, maintenance, security, as well as public restrooms, has been a concern of many of the residents. Multiple areas have been identified in the Plan which can serve these functions and provide valuable facility space which is accessible, manageable, and compatible with the overall fabric of the waterfront. The Plan recognizes that increases in such services will likely be required as the Plan's vision for the waterfront becomes more fully realized. Implementation must be monitored vigilantly, and the area periodically evaluated on its level of service, and of the public's perception of its success.

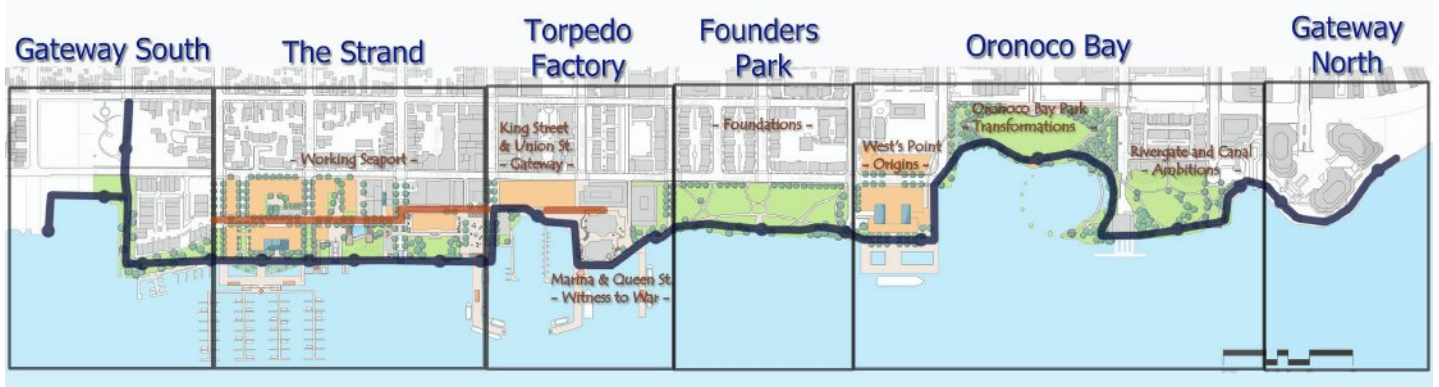
Map showing historic Alexandria street grid



Design details on walkway, Beaufort, NC



Figure 10: Arts and Culture Theme Areas



Environmental Sustainability

Environmental sustainability is critical to the future of a vibrant and organic waterfront. For Alexandria's waterfront this means attention to: (a) shoreline protection, (b) flood plain, flood mitigation and sea-level rise; (c) safeguarding resource protection areas; (d) improving combined sewer outflow systems; (e) monitoring related environmental challenges; and (f) continuing to implement the City's Green Building Policy.

Shoreline Protection

The Plan addresses the need to improve the condition of Alexandria's shoreline: to naturalize it where possible, to improve the condition and function of seawalls, and to reduce the need for dredging and debris removal. Other green space features, such as natural swales, rain gardens, bioretention areas, and geographically appropriate plantings, will beautify the environment and create a better organized arrangement of green infrastructure.

Vegetative Green Roof



Cromley Lofts, a Green Building in Old Town



Flood Plain, Flood Mitigation, and Sea-Rise Level

Much of the waterfront planning area is subject to flooding from the Potomac River. The area is affected by twice-daily tidal fluctuations, as well as occasional storm surges and heightened water levels caused by runoff from the upstream watershed. The lowest portion of the waterfront, located at the foot of King Street, experiences street flooding at least once a month. A significant portion of the waterfront planning area is within the 100-year floodplain, as mapped by the Federal Emergency Management Agency (FEMA). Furthermore, there is a consensus in the scientific community that sea levels, and thus the level of the Potomac River, will rise in the next 100 years. These issues present a challenge to both the present and any future redeveloped state of the waterfront. Therefore, good floodplain management practices, as well as flood mitigation measures are integral to the Plan.

In terms of floodplain management, construction within the FEMA-mapped floodplain is subject to the requirements of the Floodplain Ordinance (zoning ordinance, section 6-300). The core principle is that any new or substantially improved construction within the floodplain must have its first floor at or above the 100-year water-surface elevation. Lower floors may be used for parking, storage, or entry, but not for habitation, cooking or food storage. Below grade floors are not allowed for residential structures.

Additionally, the City has undertaken the *Potomac River Waterfront Flood Mitigation Study* to identify specific flooding problems and their causes, identify and evaluate solutions, and recommend the most effective solutions. The Potomac River Waterfront Flood Mitigation Study was coordinated with the waterfront planning effort and its project area generally conforms to that of the Plan.

The *Potomac River Flood Mitigation Study* considers several key water-surface elevations, including the nuisance level (4.0 feet NAVD88, 1.5-year return period), the intermediate level (8.0 feet NAVD88, 30-year return period), and the extreme level (10.2 feet NAVD88, 100-year return period). Through the course of the study, the elevation of 6.0 feet NAVD88, which has a return period of 10 years, emerged as the most cost-beneficial level of protection. Mitigation measures to achieve this level of protection would be required in two locations: at Robinson Terminal North when it redevelops, and from the Old Dominion Boat Club to Robinson Terminal South.

The recommended solutions identified in the study to address flooding include structural measures, such as a combination floodwall/pedestrian walkway at an elevation 6.0 feet NAVD88, elevating the street level for the unit block of King Street and portions of Union and The Strand and adding drainage improvements and a pumping system for this area to prevent flood waters from coming up through the storm drains, dry flood proofing individual buildings, and incorporating berms into landscaping. It also includes non-structural measures such as enhancing the existing sandbag program, encouraging internal relocation of goods and valuables, and strengthening the floodplain and zoning ordinances. Some of the recommended mitigation actions are ones which individual property owners and tenants will implement themselves, while others are City government efforts.

Flooding on The Strand and in Waterfront Park



Flooding at the foot of King Street



Ballasted flood gate

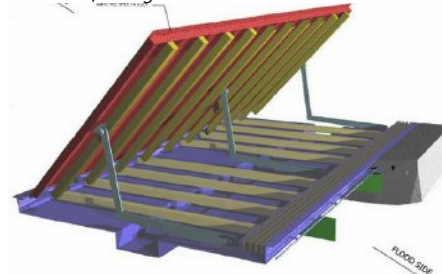


Figure 11: Integrated Flood Control System Concept



The Plan recommends a modified version of the elevated walkway approach in the flood study. An elevated walkway at the shoreline would obstruct views and isolate Alexandrians from the Potomac River, which is undesirable. The Plan recommends integrating the flood protection of the elevated walkway into building walls and park walls and into landscaped berms, and to use automated floodgate systems at the three affected street-ends (King Street, Prince Street and Duke Street) to provide protection when needed and to reserve views at all other times. This integrated system is depicted in Figure 11.

Concerning projected sea-level rise, historical data indicate that there has been approximately 1 foot of sea-level rise experienced in the tidal Potomac over the past 100 years. The scientific consensus is that this rate of rise will continue and likely accelerate over the next 100 years. Data have been extracted and downscaled from an ensemble of global circulation models accepted by the International Panel on Global Climate Change in 2007. These models predict that Alexandria's Potomac waterfront will experience sea level rises of 2.3 to 5.2 feet by 2100. There are other credible predictions of more feet of sea level rise by 2100. The Plan's recommendations balance the need for near and long-term flood protection, costs, day-to-day quality of life, and concern about impacts on the fabric of a historic city.

Resource Protection Areas

Resource Protection Areas (RPAs) consist of a 100 foot buffer area measured from the top of bank of a tidal shore, a tidal or non-tidal wetland, or a water body of perennial flow. In the case of the waterfront planning area, the tidal shore or wetland to which it is adjacent is the Potomac River and its tributaries. The 100 foot buffer – between active uses on the land and the adjacent water body – functions to remove pollutants collected from storm flows passing over it, thus intercepting pollutants from ultimately reaching the Chesapeake Bay.

Any new development under the Plan must comply with the City's RPA regulations and stormwater management requirements. Requirements for RPAs are set forth in the City's Environmental Management Ordinance (Chapter 13 of the Zoning Ordinance) under the State of Virginia's Chesapeake Bay Preservation Act. Within the 100 foot buffer redevelopment is generally restricted as follows:

- ◆ No increase in impervious surface cover.
- ◆ No further encroachment within the RPA.
- ◆ Proposed redevelopment must be consistent with the City's Master Plan.
- ◆ Proposed redevelopment must comply with the City Code with respect to erosion and sediment control (Section 5-4-1 et seq.) and the applicable stormwater management requirements in Sec. 13-109(E) as well as stormwater management requirements of state and federal agencies.

Combined Storm Water System

Old Town is served by a Combined Sewer System which is operated under a permit from Virginia Department of Environmental Quality. In addition, storm water outfalls are regulated under a Municipal Separate Storm Sewer System permit. New regulations such as Chesapeake Bay TMDLs (Total Maximum Daily Load) for nutrients and sediments, and Hunting Creek Bacteria TMDLs will potentially require new capital improvements, i.e grey-infrastructure such as storage/retention tanks or storm water facilities in this area. This work, if required by the permits, will most likely be sited in the areas of Oronoco Bay Park, or near Jones Point. Additionally there may be new storm water outfalls needed along the waterfront as part of any sewer separation project required. Beyond meeting any future regulatory and permit requirements, the Environmental Action Plan 2030 calls for eliminating the impacts of the CSOs which requires similar storm water and Combined Sewer System improvements. As the waterfront redevelops, the planning and implementation phases will need to address these regulatory challenges.

The environmental regulatory challenges above will affect redevelopment throughout the waterfront planning area. Additional environmental considerations can be found in Chapter 3 where specific plan areas are discussed.

Monitoring Related Environmental Challenges

There are a number of other environmental concerns of which the waterfront planning process is mindful and which will impact implementation of the Plan's recommendations. These concerns stem from current or former uses and older infrastructure still in use. Redevelopment presents an opportunity to pursue environmental best practices throughout the planning area, as much of today's waterfront was implemented before many of these practices were expected.

These challenges and opportunities include:

- ◆ Eliminating contamination due to coal tar migration into the Potomac River near Robinson Terminal North.
- ◆ Enhancing RPA buffer areas and stormwater best management practices along the waterfront to improve water quality entering the Potomac River.
- ◆ Continuing to work with the Mirant Potomac River Generating Station to reduce fugitive and stack emissions to further improve local air quality.

These issues are being addressed outside the waterfront planning effort but will be coordinated with implementation of the Plan.

Green Building Policy

In 2009, the City adopted its Green Building Policy which requires all developments requiring a Development Site Plan or a Development Special Use Permit to acquire a Leadership in Energy and Environmental Design (LEED) Silver or equivalent rating for non-residential development or a LEED Certified for residential development. In assessing compliance with the LEED standards, consideration is given by the City to priority elements included within the project's design that: (a) enhance energy efficiency; (b) promote water conservation and reduce stormwater runoff; and (c) reduce the overall carbon footprint of the development. More information on the City's Green Building Policy can be found on the City's website at <http://www.alexandriava.gov/GreenBuilding>.

Circulation and Parking

One of the most important elements in the Plan in terms of systems that work is parking. Chapter 4 of the Plan provides an overview of the area's multi-modal transportation and circulation systems and recommendations for anticipating and addressing potential impacts, including vehicular and pedestrian congestion; handicapped accessibility; and it also includes a parking inventory and a parking management strategy to ensure adequate parking remains available throughout the implementation of the Plan

Economic Sustainability

Financial and operational issues are also critical elements to the long-term sustainability of the waterfront. The Plan expects needs to evolve over time, especially at the marina. Strategic phasing of the marina will be a key component in management of the financial expenditures laid out in the Plan. As well, a comprehensive approach to funding will be required in order to properly fund both initial and phased improvements and their maintenance over time. Chapter 5 further identifies specific costs and potential sources of revenues, as well as the Plan's recommendations in approach to its overall implementation.

